Good Display Specifications

Type: Standard

Model No. YM128128G-3

Description:
- 128 x 128 dots, COG LCD Module.
- With white LED backlight
- 6800/8080 series or Serial interface

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Good Display

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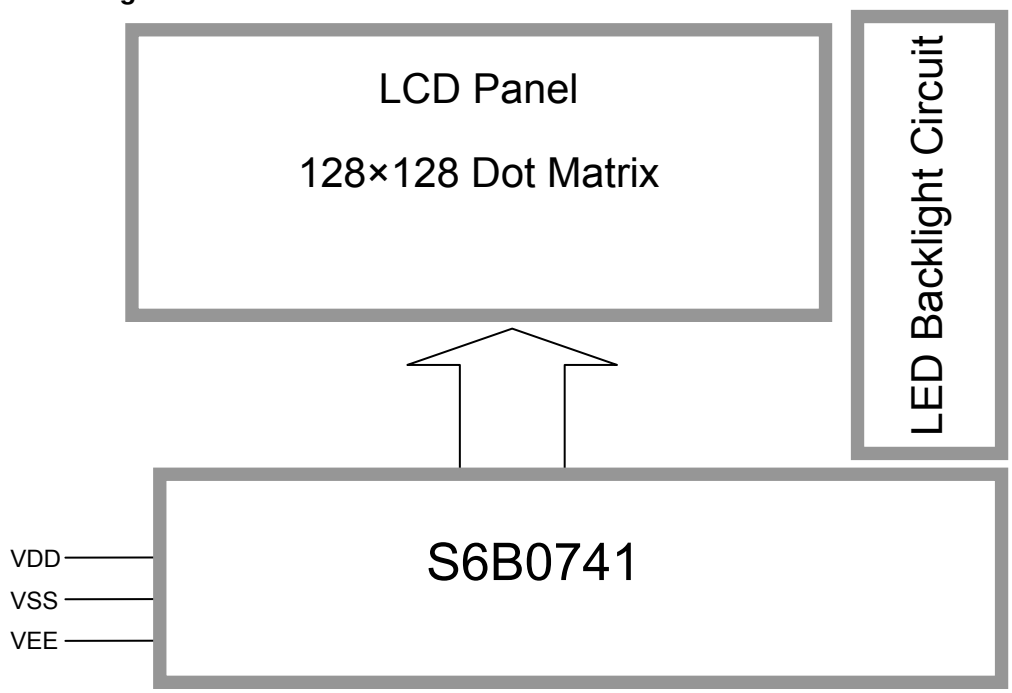
1.0 Basic Specification

1.1 Display and Mechanical Specification

ITEM	STANDARD VALUE	UNIT
Display Type	128 X 128	Dots
LCD Type	FSTN/ Transflective/Positive	--
LCD Duty	1/128	--
LCD Bias	1/12	Bias
Viewing Direction	6:00	Clock
Backlight Type	Edge LED Backlight with white color	--
Interface	6800/8080 series or Serial Interface	--
Driver IC	S6B0741 (Gold Bump Chip)	--
IC Package	COG	--
Module Dimension	46.5(L)×56.7(W) ×4.00(H) (MAX)	mm
Visual Area	39.64(L) ×46.04(W)	mm
Dot size	0.25 ×0.30	mm
Dot Pitch	0.28 ×0.33	mm
Operating Temperature	0 ~ 50	℃
Storage Temperature	-10 ~ 60	℃

1.2 Block Diagram



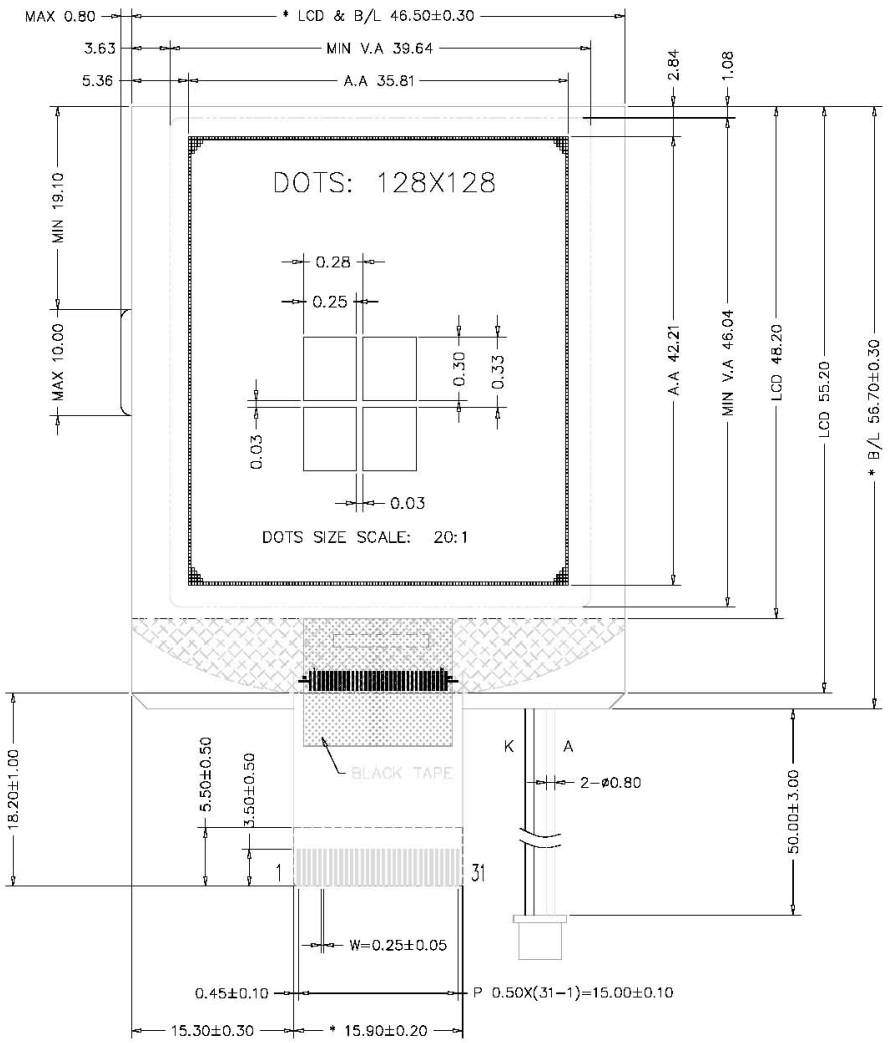
1.3 Terminal Functions

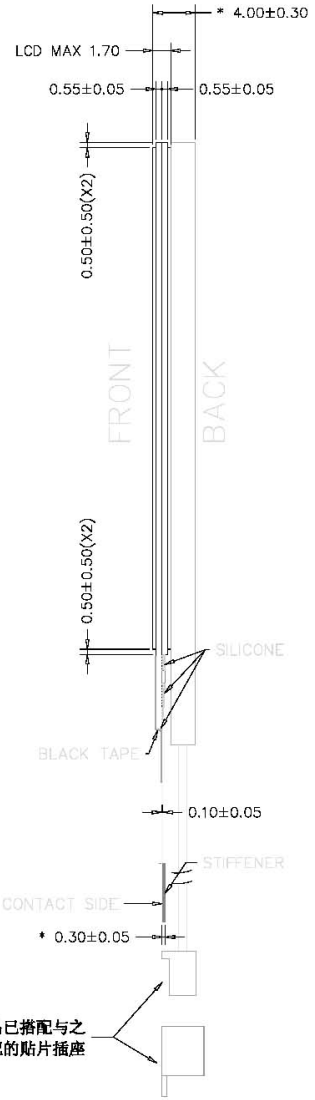
Pin No.	Pin Name	I/O	Descriptions
1	PS0	I	Parallel / Serial data input select input H = Parallel L= Serial
2	PS1	I	Microprocessor interface select input pin -PS0="H" ,PS1="H" : 6800-series parallel MPU interface -PS0="H" ,PS1="L" : 8080-series parallel MPU interface -PS0="L" ,PS1="H" : 4 pin-SPI MPU interface -PS0="L" ,PS1="L" : 3 pin-SPI MPU interface
3	CSB	I	Chip slect input pins Data/ instruction I/O is enabled only when CSB is "L". When chip select is non- active, DB0 to DB7 may be high impedance.
4	/RES	I	Reset Signal /RES=L, Initialization is executed /RES=H, Normal running
5	RS	I	Register select input pin - RS ="H": DB0 to DB7 are display data
6	R/W(/WR)	I	/WR=L～H , /RD=H Data or Instruction latch into the LCD module
7	/RD(E)	I	Read /Write execution control pin
8-15	D0….D7	I/O	8-bit Data bus., Three state I/O terminal for display data or instruction data When /CS=H DB0～DB7=High Impedance
16	VDD	Supply	Positive Power Supply
17	VSS	Supply	Negative Power Supply, Ground(0V)
18	VOUT	I/O	Voltage converter Output
19	CAP5+	O	DC-DC Voltage converter capacitors terminals
20	CAP3+	O	
21	CAP1-	O	
22	CAP1+	O	
23	CAP2+	O	
24	CAP2-	O	
25	CAP4+	O	
26-30	V4-V0	I/O	LCD driver supply voltages VDD (=Vo) ≥ V1≥V2≥V3≥V4≥V_{SS}
31	OSC1	I	When using internal clock oscillator, connect a resistor between OSC1 and VDD

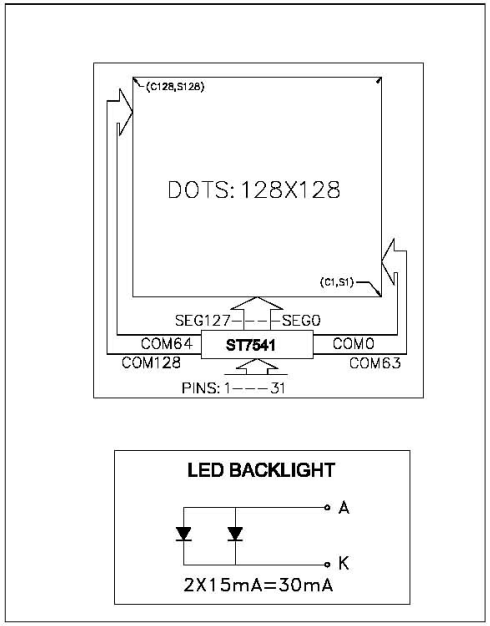
All Pages Of This Edition Approved

Signature: Date:

REV.	DESCRIPTION	DATE
REV A0.	1'ST DESIGN	090601







PIN	SYMBOL	Description	PIN	SYMBOL	Description
1	PS0	Microprocessor interface select	17	VDD	Power supply 3.0V
2	PS1	Parallel 80/Parallel 68/ 3L SPI Serial/4L SPI Serial/IIC Serial	18	VDD	
3	PS2		19	VDD	
4	/CSB	Chip select input. low active	20	VDD	
5	RST	Reset input pin.	21	VSS	Ground 0V
6	A0	Register selection input.	22	VSS	
7	R/W-/WR	Read / Write OR Write enable clock	23	VSS	
8	E-/RD	Enable Signal OR Read enable clock	24	VSS	
9	D0	8-bit bi-directional data bus	25	VOUT	Internal booster output/input PIN. Need the capacitor between with VSS
10	D1	When the 3-Line/4-Line serial interface is selected (PS[2:0] = "000" or "010"): DB[0:5]: High impedance (connect to 'H' or 'L'); DB6: Serial input clock (SCL); DB7: Serial input data (SID). When chip select is not active, DB[7:0] is High impedance. When the IIC serial interface is selected (PS[2:0] = "100"): DB7: Serial clock input (SCL); DB[6:4]: Serial data input (SDA_IN); DB[3:2]: Serial data output (SDA_OUT). For acknowledge signal output in IIC interface; DB[1:0]: Is sleve address (SA) bit1, 0, must connect to Vdd or Vss. *DB[6:2]: Must be connected together as SDA signal of IIC interface.	26	OSC1	External OSC input pin, when using internal clock oscillator, connect OSC1 to VDD.
11	D2		27	V4	LCD driver supply voltages. V1, V2, V3, V4 need the capacitor between with VSS. V0 ≥ V1 ≥ V2 ≥ V3 ≥ V4 ≥ VSS
12	D3		28	V3	
13	D4		29	V2	
14	D5		30	V1	
15	D6		31	V0	
16	D7				

Specifications:
1. Display Mode: FSTN/Transflective/Positive.
2. Viewing Angle: 6 O'clock.
3. Drive Method: 1/128 Duty 1/12 Bias, Vop=12.0V, Vdd=3.0V.
4. Top: 0°C~+50°C, Tst: -10°C~+60°C.
5. Connector: COG+FPC+B/L.
6. Backlight: 2 PCS White LED Side Backlight; If=30mA & Vf=3.1±0.3V.
7. Drive IC: ST7541
8. RoHS Compliant: Yes.
9. With " * " Mark Dimensions Are Important Dimensions.

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				UNIT: MM	CD
				SHEET:	SIZE: A4
LCM NO.: YM128128G-3		DWG NO.:			1 OF 1
					REV: A0
DRAWN BY :	Javen	CHECKED BY :	LGP	APPROVED BY :	
DATA :	20090601	DATA :	20090601	DATA :	

2. Absolute Maximum Ratings

Items	Symbol	Min	Max.	Unit	Condition
Supply Voltage (Logic)	V_{DD}-Vss	0	+8.0	V	V_{ss}=0V
Supply Voltage (LCD Driver)	V_{DD}-V_{EE}	0	16.5	V	V_{ss}=0V
Input Voltage	V_{IN}	0	VDD+0.3	V	V_{ss}=0V
Operating Temperature	T_{OP}	0	+50	℃	No Condensation
Storage Temperature	T_{ST}	-20	+70	℃	No Condensation

Cautions:

Any stresses exceeding the Absolute Maximum Ratings may cause substantial damage to the device Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability

3. Electrical Characteristics

3.1 DC Characteristics

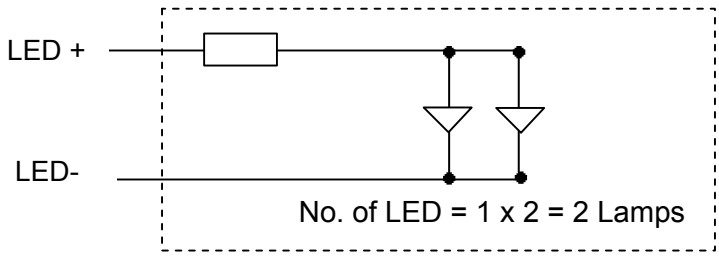
Items	Symbol	Min	Typ.	Max.	Unit	Condition
Supply Voltage (Logic)	V_{DD}-Vss	2.7	3.0	5.0	V	
Supply Voltage (LCD Driver)	V_{DD}-V_{EE}	15.9	16.5	17.2	V	-20℃
		14.8	15.0	15.4		25℃
		16.0	17.8	19.8		70℃
Input Voltage	V_{IH}	V_{SS}+2.0	--	VDD	V	--
	V_{IL}	V_{SS}8	--	V_{SS}+0.8		
Logic Supply Current	I_{DD}	--	0.9	--	℃	VDD-Vss=3.0V

3.2 LED Backlight Circuit Characteristics

Items	Symbol	MIN	TYP.	MAX.	Unit	Application pin
Forward Voltage	Vf_{LED+}	-	3.0	-	V	LED+
Forward Current	If_{LED+}	-	-	30	mA	LED+

Cautions:

Exceeding the recommended driving current could cause substantial damage to the backlight and shorten its lifetime.



4. IC Contents Attachment:

Reference Documents From SAMSUNG LCD Driver with

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5. Design and Handling Precaution

1.0 The LCD panel is made by glass. Any mechanical shock (eg. dropping form high place) will damage the LCD module.
2.0 Do not add excessive force on the surface of the display, which may cause the Display color change abnormally.
3.0 The polarizer on the LCD is easily get scratched. If possible, do not remove the LCD protective film until the last step of installation.
4.0 Never attempt to disassemble or rework the LCD module.
5.0 Only Clean the LCD with Isopropyl Alcohol or Ethyl Alcohol. Other solvents (eg. water) may damage the LCD.
6.0 When mounting the LCD module, make sure that it is free form twisting, warping and distortion.
7.0 Ensure to provide enough space (with cushion) between case and LCD panel to prevent external force adding on it, or it may cause damage to the LCD or degrade the display result.
8.0 Only hold the LCD module by its side. Never hold LCD module by adds force on the heat seal or TAB.
9.0 Never add force to component of the LCD module. It may cause invisible damage or degrade of the reliability.
10.0 LCD module could be easily damaged by static electricity. Be careful to maintain an optimum anti-static work environment to protect the LCD module.
11.0 When peeling off the protective film from LCD, static charge may cause abnormal display pattern. It is normal and will resume to normal in a short while.
12.0 Take care and prevent get hurt by the LCD panel sharp edge.
13.0 Never operate the LCD module exceed the absolute maximum ratings.
14.0 Keep the signal line as short as possible to prevent noisy signal applying to LCD module.
15.0 Never apply signal to the LCD module without power supply.
16.0 IC chip (eg. TAB or COG) is sensitive to the light. Strong lighting environment could Possibly cause malfunction. Light sealing structure casing is recommend.
17.0 LCD module reliability may be reduced by temperature shock.
18.0 When storing the LCD module, avoid exposure to the direct sunlight, high humidity, high temperature or low temperature. They may damage or degrade the LCD module